

Amendments to the Drawings

The attached sheets of drawings replace FIG. 1. These sheets replace the original sheets. The changes to the figures are:

FIG. 1: Typographical errors have been corrected. Reference numeral 116 located at piezo actuator 122 has been changed to reference numeral 118 to properly designate that it is an actuator. The line from amplifier 116 to vibration sensor 106 has been removed.

Attachment: Replacement Sheets
Annotated Sheets Showing Changes

Remarks

The office action and cited art have been reviewed. Claims 1, 3-7, 13, and 14 have been amended. Claim 2 has been canceled. Claim 1 and 3-16 remain pending.

Drawings

FIG. 1 has been amended to correct typographical errors. Specifically, reference numeral 116 located at piezo actuator 122 has been changed to reference numeral 118 to properly designate that it is an actuator. The line from amplifier 116 to vibration sensor 106 has been removed.

The drawings have been objected to because FIG. 10 is non-existent. Paragraphs [0025] and [0106] have been amended to remove references to FIG. 10. In view of the foregoing, it is respectfully requested that the objection to the drawings be removed and the amendments to the drawings be approved.

Claim Objections

Claims 6, 7, 13, and 15 have been objected to due to informalities. These informalities have been corrected. Specifically, the term "~" in claims 6 and 7 has been objected to as it may be interpreted to mean "about" which according to the Office Action would render the claim indefinite. This term has been changed to the term "≈" to indicate the term should mean "approximately equal." The misspelled term "fro" has been removed from claim 13 and the term "close-loop" in claim 15 has been amended to read "closed-loop."

Claims 3-7 have been objected to as the first use of an acronym or variable in a claim should be defined to avoid any possible indefiniteness issues. Claims 3-7 have been amended.

In view of the foregoing, it is respectfully requested that the claim objections be removed.

Claim rejections under 35 USC § 112

Claims 1-16 have been rejected under 35 USC 112, second paragraph, as being incomplete for omitting essential steps where the omitted step is "extracting acoustic energy and structural energy."

Claim 1 has been amended in view of the Examiner's comments. It is respectfully submitted that claims 1-16 now even more fully satisfies the requirements of the second paragraph of 35 USC 112. In view of the foregoing, it is respectfully requested that the 35 USC 112 rejections of claims 1-16 be withdrawn.

Claims 2, 13, and 14 have been rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claims the subject matter which applicant regards as the invention.

Claim 2 has been canceled, rendering the rejection of claim 2 moot. Claim 13 has been rejected based upon the term "perturbed from nominal values" in line 3. Claim 14 has been rejected based upon the term "response is satisfactory" in line 3. Claims 13 and 14 have been amended in view of the Examiner's comments. It is respectfully submitted that claims 13 and 14 now even more fully satisfies the requirements of the second paragraph of 35 USC 112. In view of the foregoing, it is respectfully requested that the 35 USC 112 rejections of claims 13 and 14 be withdrawn.

Claim rejections under 35 USC § 103

Claims 1, 2, and 10-16 have been rejected under 35 USC 103(a) as being unpatentable over Kelkar and Joshi, entitled "Robust Passification And Control of Non-Passive Systems" (Kelkar hereinafter) taken in view of Son et al. entitled "Stabilization of Linear Systems Via Low-Order Dynamic Output Feedback: A Passification Approach" (Son hereinafter)

To establish a prima facie case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one skilled in the art, to modify the reference or combine teachings. Any proposed modification cannot render the prior art unsatisfactory for its intended purpose or change the principle of operation of a reference. There must be a reasonable expectation of success and the prior art references must teach or suggest all of the claim limitations. See M.P.E.P. 2143. Conclusory statements cannot be relied on when dealing with particular combinations of prior art and specific claims. The rationale for combining references must be put forth. In re Lee, 61 USPQ2d 1430, 1433. The Examiner can satisfy the burden of showing obviousness of the combination "only by showing some objective

teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references."

Claim 1 as amended requires, *inter alia*, the step of designing a passivity-based controller that extracts at least one of acoustic energy or structural energy such that a resulting closed-loop response provides a desired noise reduction.

Without conceding the propriety of the asserted combination, however, it is respectfully submitted that the asserted combination does not disclose at least the aforementioned feature of claim 1, for at least the following reason.

Kelkar does not teach or suggest extracting at least one of acoustic energy or structural energy. See the Kelkar declaration submitted with this paper. Dr. Kelkar specifically states that neither of the papers cited in the Office Action in which Dr. Kelkar is an author teaches extraction of acoustic energy and structural energy in an acoustic enclosure. No teaching or suggestion could be found in Son of extracting at least one of acoustic energy or structural energy. Therefore, it is respectfully submitted that neither Kelkar nor Son, singly or in combination, teach the step of extracting at least one of acoustic energy or structural energy. In view of the foregoing, it is respectfully requested that the rejection of claim 1 be withdrawn.

Claims 10-16 depend from claim 1 and are believed to be patentable for at least the same reasons put forth above for claim 1. It is therefore respectfully requested that the rejection of claims 10-16 be withdrawn.

Claims 8 and 9 have been rejected under 35 USC 103(a) as being unpatentable over Kelkar taken in view of Son and further in view of Kelkar and Joshi paper entitled Robust Passification Via Optimal Sensor Blending and Control Allocation (Joshi hereinafter).

As stated previously, neither Kelkar nor Son, singly or in combination, teach the step of extracting at least one of acoustic energy or structural energy. Dr. Kelkar is an author in both the Kelkar and Joshi cited art. As stated in the Kelkar declaration, neither of these citations teaches extraction of acoustic and structural energy. Therefore, it is respectfully submitted that none of Kelkar, Son, and Joshi, singly or in combination, teach all of the limitations of claims 8 and 9. It is therefore respectfully requested that the rejection of claims 8 and 9 be withdrawn.

Extension of Time and Fee Deficiency

Applicants hereby respectfully petition for an extension of time of two (2) months in filing this response to the Office Action dated January 11, 2007, extending the time to respond to June 11, 2007. The Commissioner is hereby authorized to charge \$225.00 to cover the fee as required by 37 C.F.R. §1.17(a)(2) to Deposit Account No. 50-3505.

If any additional fee is required, or any overpayment is made, in connection with this communication please charge or credit deposit account No. 50-3505.

Conclusion

The application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. The absence of additional patentability arguments should not be construed as either a disclaimer of such arguments or that such arguments are not believed to be meritorious. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

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